

# **NATURAL GAS OUTLOOK TO 2020**

## **The U.S. Natural Gas Market -- Outlook and Options for the Future**

Paul Wilkinson  
American Gas Association  
April 2005



# AMERICAN GAS FOUNDATION

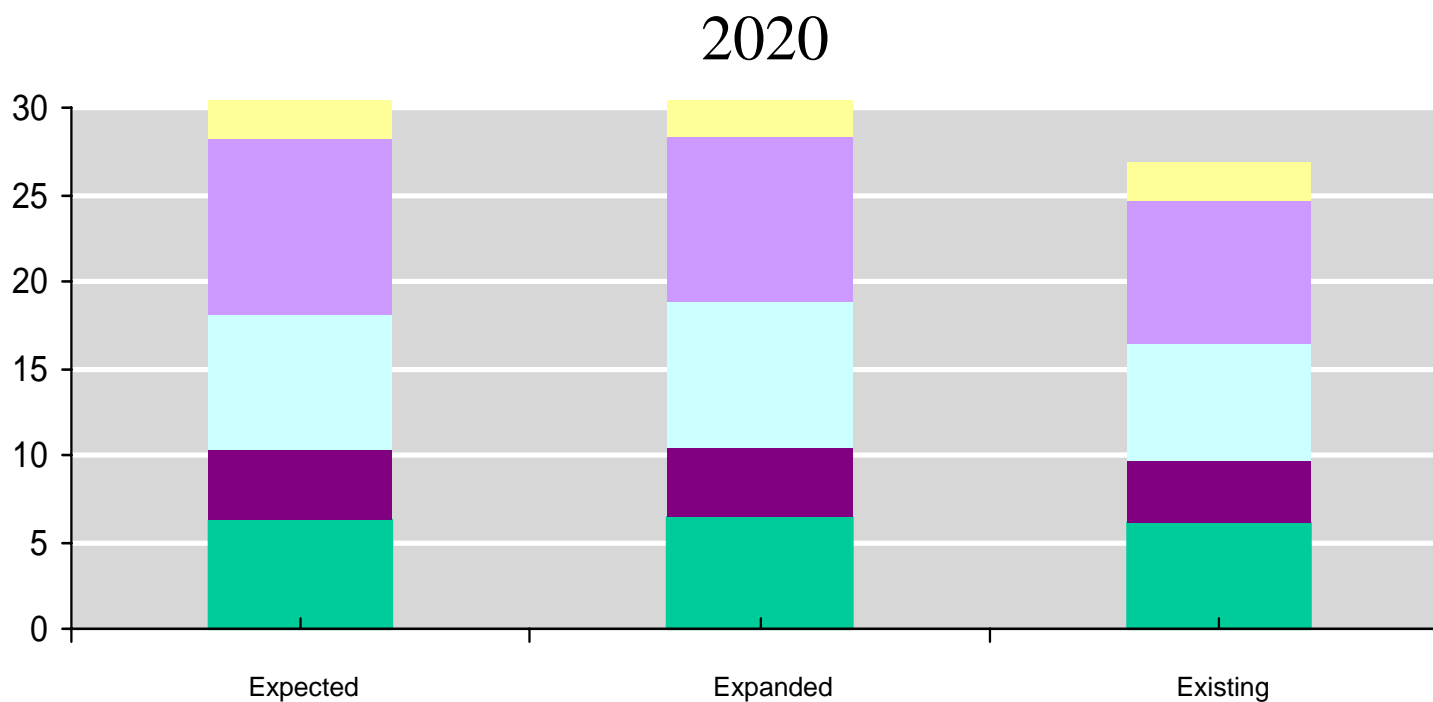
**Independent source of information,  
research and programs on energy and  
environmental issues that affect  
public policy**



# SCENARIO ASSUMPTIONS

	<u>Expected</u>	<u>Expanded</u>	<u>Existing</u>
Drilling Moratoria	Unchanged	Relaxed	Unchanged
Intermountain West Access	Unchanged	Increased	Unchanged
Alaskan Pipeline	2014	2014	Not Built
LNG in 2020	18 Bcfd	23 Bcfd	5.3 Bcfd
New Gas-Fired Generation	60 GW	30 GW	60 GW

# PROJECTED NATURAL GAS CONSUMPTION QUADS



Other Elect. Ind. Comm. Res.

# COMPARISON OF LONG-TERM SCENARIOS 2003 – 2020

## CONSUMPTION (Tbtu)

## FORECAST - 2020

	<u>Actual 2003</u>	<u>Expected</u>	<u>Expanded</u>	<u>Existing</u>
Res	5,188	6,326	6,417	6,076
Com	3,287	3,944	4,074	3,610
Ind	7,412	7,739	8,268	6,718
EG <sup>1</sup>	4,230	10,203	9,526	8,226
Pipe <sup>2</sup>	777	993	976	930
<u>L&amp;P <sup>3</sup></u>	<u>1,247</u>	<u>1,254</u>	<u>1,211</u>	<u>1,336</u>
Total	22,141	30,459	30,472	26,896

<sup>1</sup> Electricity generation.

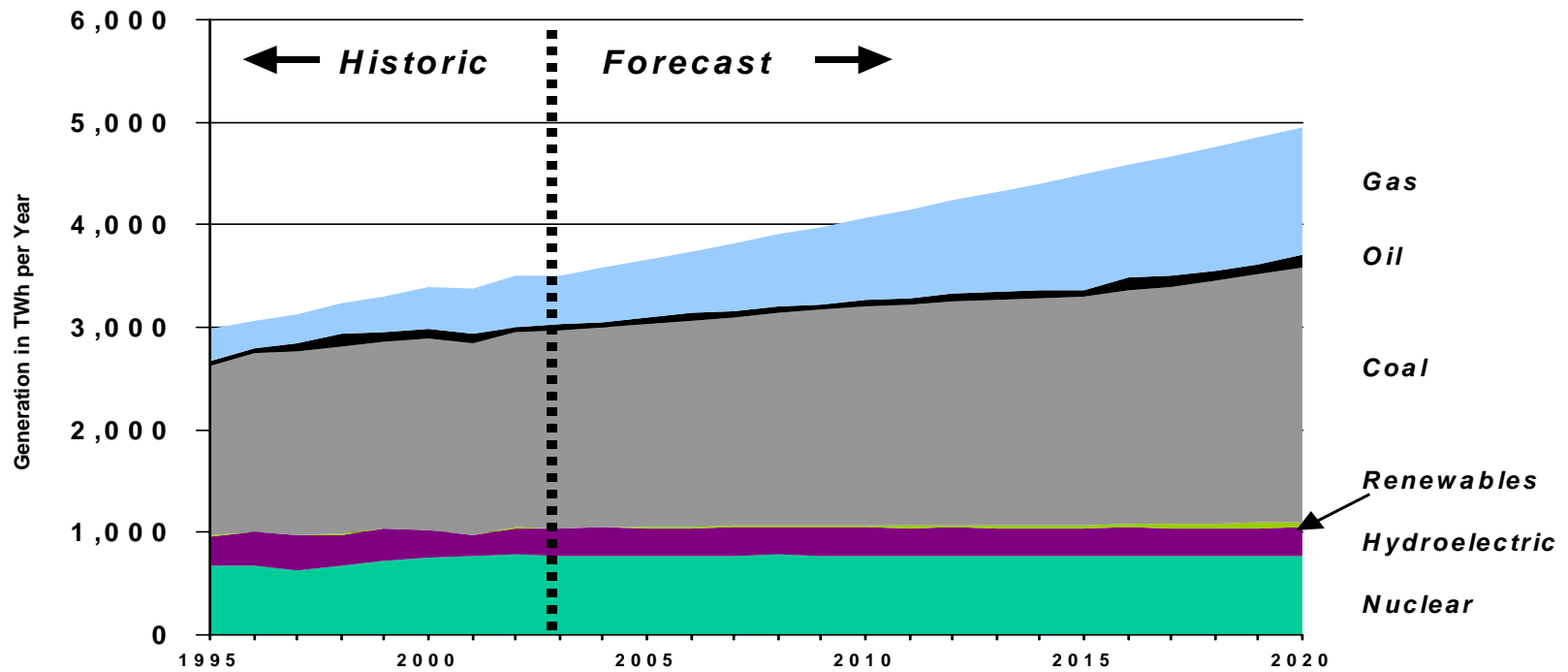
<sup>2</sup> Pipeline compressor fuel.

<sup>3</sup> Lease and plant fuel.

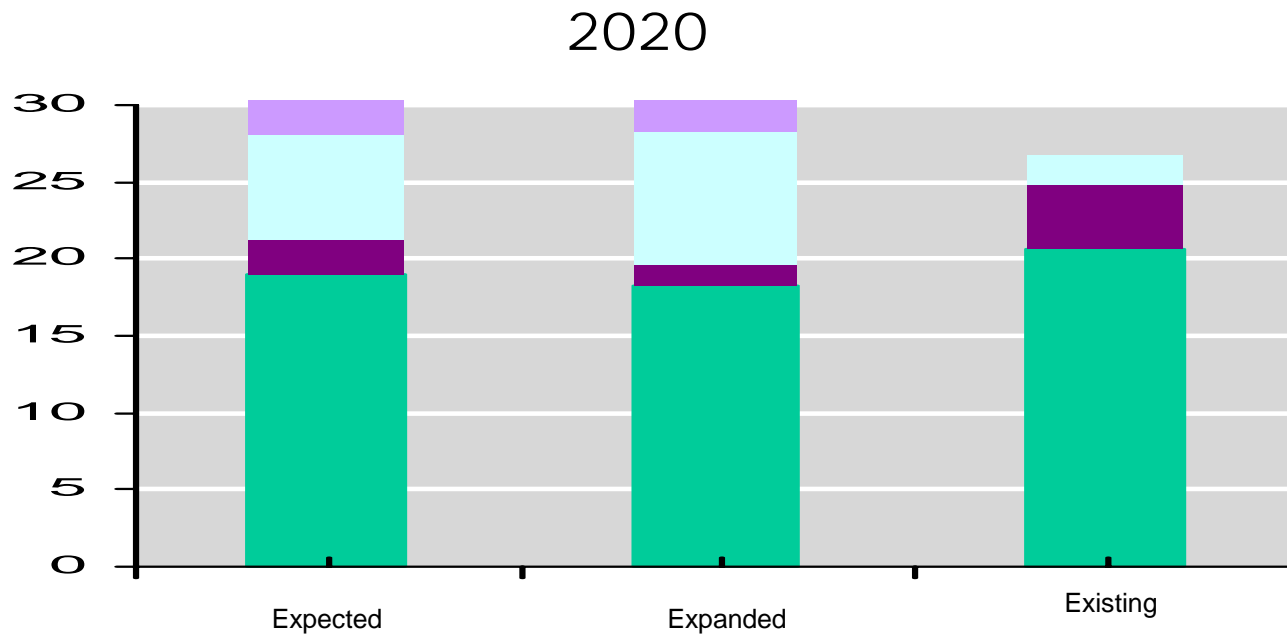


# ELECTRICITY GENERATING MIX

## 1995-2020



# PROJECTED NATURAL GAS SUPPLY QUADS



Alaska

LNG

Canada

Lower-48

# COMPARISON OF LONG-TERM SCENARIOS 2003 – 2020

## SUPPLY (Tbtu)

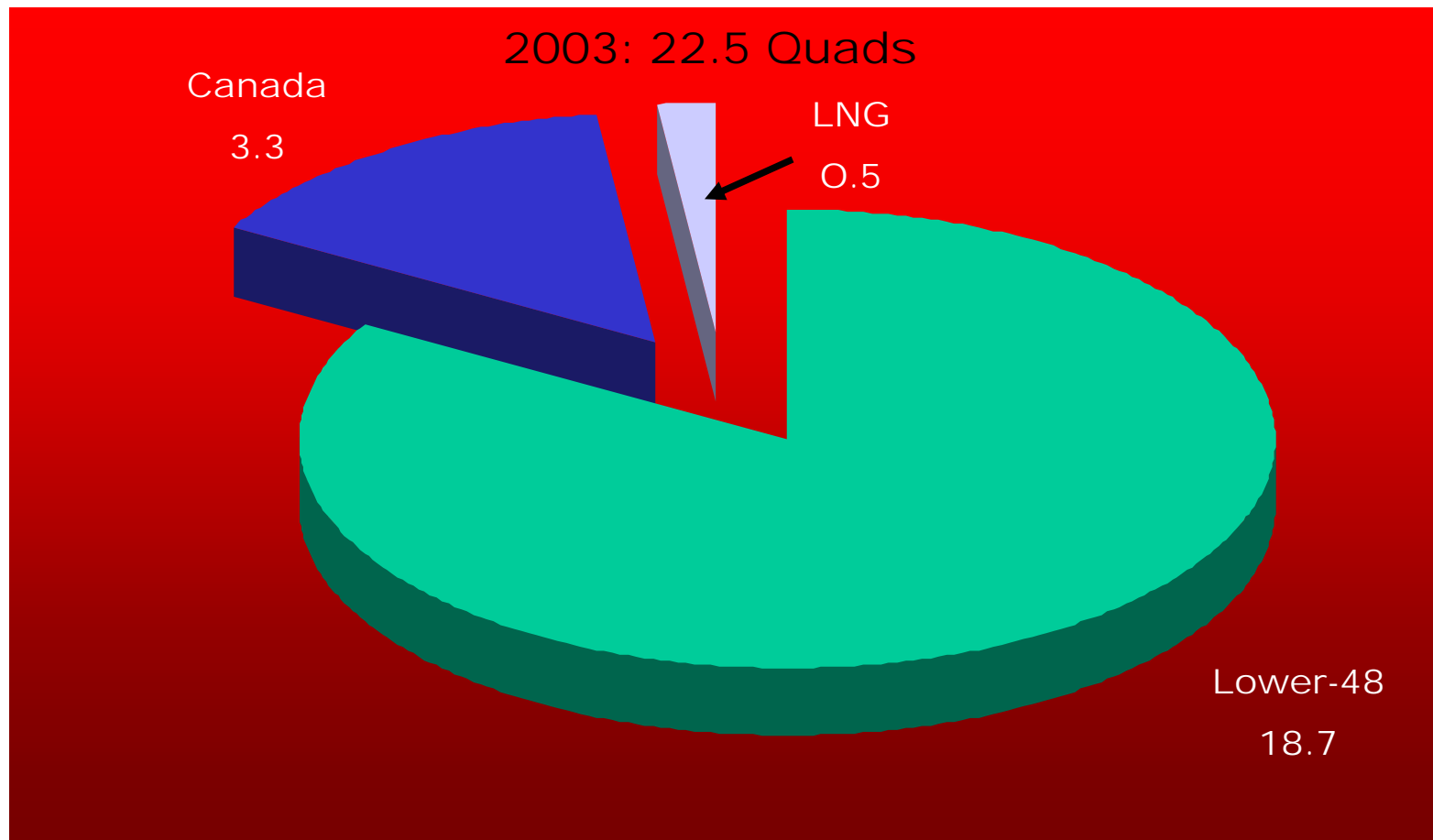
## FORECAST - 2020

	<u>Actual</u> <u>2003</u>	<u>Expected</u>	<u>Expanded</u>	<u>Existing</u>
L-48	18,655	18,966	18,325	20,671
Alaska <sup>4</sup>	362	2,724	2,700	406
Canada	3,300	2,326	1,266	3,944
Mexico	-350	-177	-177	-177
<u>LNG</u>	<u>478</u>	<u>6,835</u>	<u>8,569</u>	<u>1,931</u>
Total	22,445	30,674	30,683	26,775

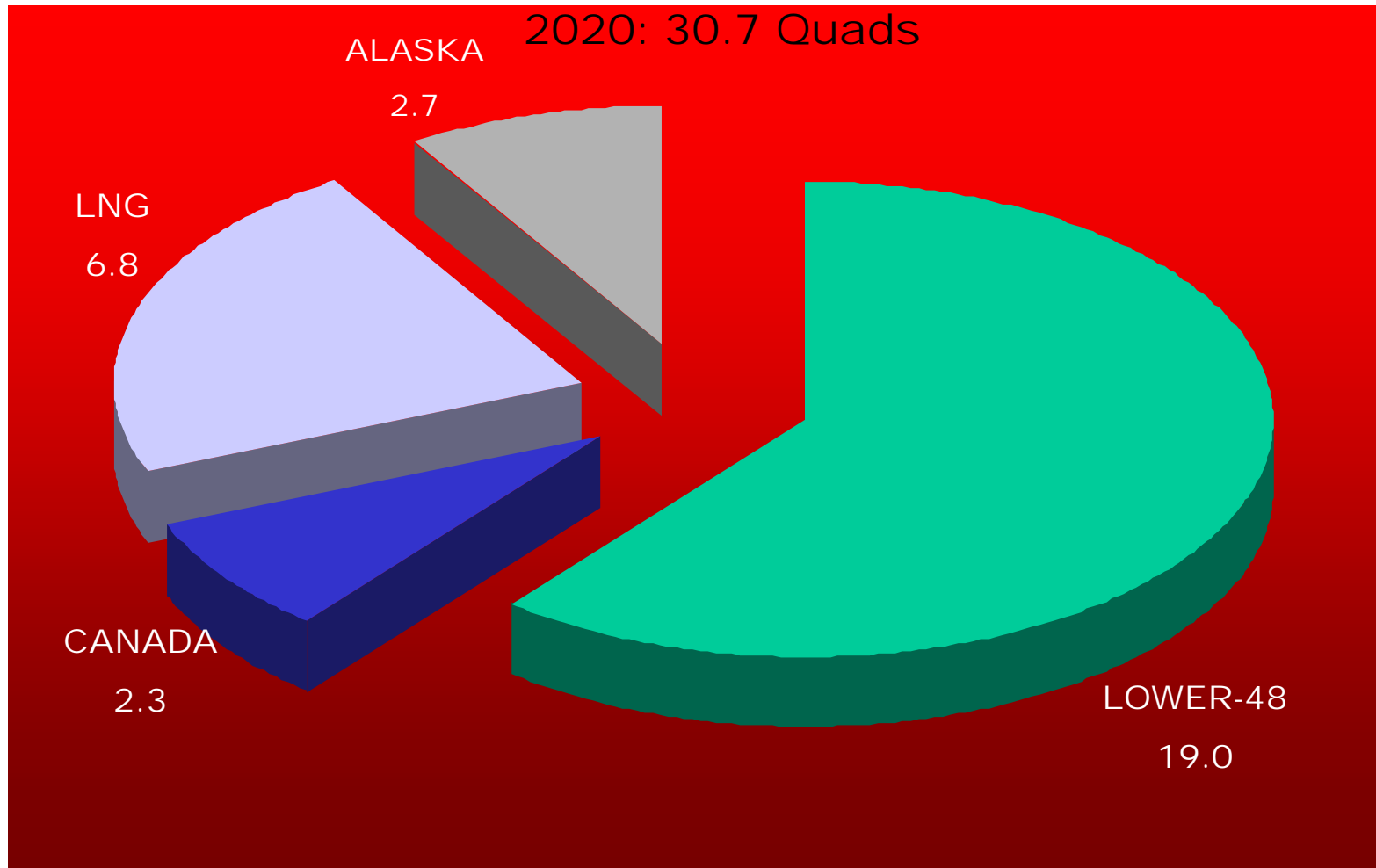
<sup>4</sup> Includes gas consumed in Alaska and the Lower-48, but excludes LNG exports.



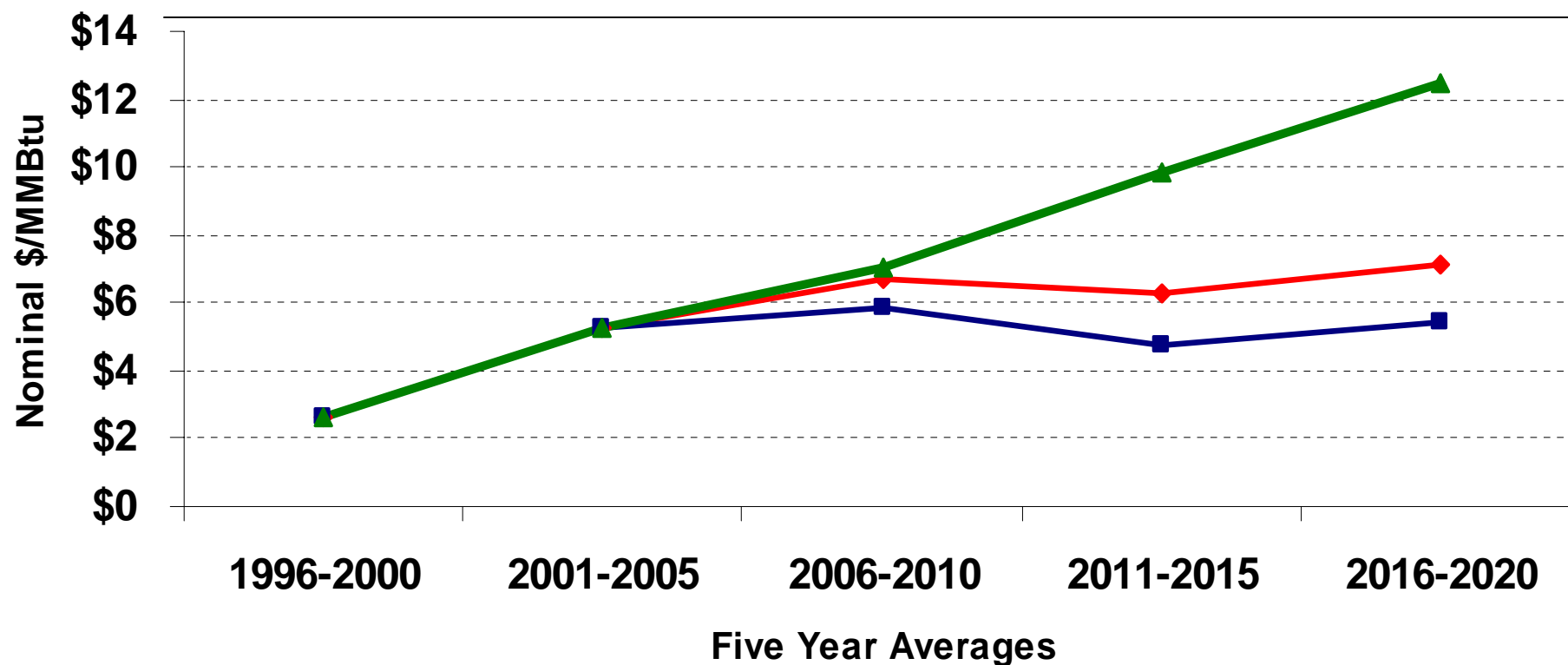
# SOURCES OF CURRENT U.S. NATURAL GAS SUPPLY



# SOURCES OF PROJECTED U.S. NATURAL GAS SUPPLY



# ACTUAL AND PROJECTED NATURAL GAS PRICES (HENRY HUB)



Expected Policies Expanded Policies Existing Policies

# COMPARISON OF LONG-TERM SCENARIOS 2003 – 2020


PRICE (\$/MMBtu, Henry Hub)

FORECAST - 2020

	<u>Actual</u> <u>2003</u>	<u>Expected</u>	<u>Expanded</u>	<u>Existing</u>
Nominal	\$ 5.49	\$8.15	\$5.47	\$13.76
Nom. Avg. (2004-20020)		\$6.72	\$5.50	\$ 9.43



# IMPACT TO CONSUMERS

	<u>Expected Policies</u>	<u>Expanded Policies</u>	<u>Existing Policies</u>
<b>Supply</b>	Greater diversity	Diversity with more LNG	Reliance on Conventional; Strain on Lower-48
<b>Demand</b>	30.6 quads	30.6 quads More Industrial; Less Electric Gen	26.7 quads
<b>2020 Prices</b>	\$8.15	 \$13.76	

**Over \$120 billion in additional cost in 2020**

# IMPACT TO CONSUMERS

	<u>Expected Policies</u>	<u>Expanded Policies</u>	<u>Existing Policies</u>
<b>Supply</b>	Greater diversity	Diversity with more LNG	Reliance on Conventional; Strain on Lower-48
<b>Demand</b>	30.6 quads	30.6 quads More Industrial; Less Electric Gen	26.7 quads
<b>2020 Prices</b>	\$8.15	→ \$5.47	

**Approximate Savings of \$80 Billion in 2020**

# NEEDED POLICY ACTIONS

- Pursue new natural gas supply strategies
- Pursue energy diversity
- Ensure the Alaskan Pipeline and adequate LNG terminals are built
- Promote real conservation and efficiency

# NEEDED POLICY ACTIONS

- Promote additional drilling with advanced technology
- Remove policy and regulatory constraints for drilling and infrastructure  
(Dec 2004 DOE/Argonne Nat'l Lab Study "Environmental Policy and Regulatory Constraints To Natural Gas Production")
- Align energy strategies with environmental and national economic interests





# THANK YOU!

